
Role of NIST in Nanotube Metrology: Questions for the Breakout Sessions

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NIST Perspective

Purpose of the meeting

- Gather world experts to facilitate exchange and build consensus.
- Assess needs of nanotube community; develop “products” to serve these needs.
- To focus our internal research programs to dove-tail with those in the community.

Conclusions from 2003

“It was decided that the community should agree upon a dispersive agent--a standard solvent or surfactant to be used at the concentration 0.1 mg per ml, for the purpose of measurement characterization only...

It was suggested that an impartial laboratory should develop a stable suspension in an appropriate solvent or surfactant and then coordinate a round robin to characterize the sample.”

NIST SRM Program

- **Certified Reference Material** (Certificate authenticating one or more property values are certified by a procedure which establishes its traceability).
- **Reference Material (RM)** - Material or substance one or more of whose property values are sufficiently homogeneous, stable, and well established to be used for the calibration of an apparatus, the assessment of a measurement method, or for assigning values to materials.

What Reference Material(s)?

Questions for the breakout session:

- Who would purchase these reference material?
- What is the size of the market?
- What is an affordable price?
- What properties are most needed to be homogenous?
- How would we measure it?
- In what form would they be (solid or dispersed, what method)
- What is the size of the market?

NIST Nanometrology Program

- NIST Expertise :
- Solution Properties- Scattering, rheology
- Electrical Properties
- Raman Spectroscopy
- Mechanical Properties
- Polymer Composite Properties (processing, electrical, and thermal, flammability)
- How can we combine these techniques with state of the art dispersion and separation methods?